

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

1. (Currently Amended) A method of detecting and rejecting faulty cigarettes, comprising the steps of:

arranging where cigarettes are arranged in horizontal layers in channels of a packing machine feeding system, and move

gravitationally moving said cigarettes in said feeding system toward [[the]] a bottom plate, from which they said cigarettes are transferred to [[the]] a packing machine, [[and]]

detecting faulty cigarettes are detected with sensors according to defined defects of faulty cigarettes, defining their defects and

rejecting said faulty cigarettes with a rejected by a rejecting device,

characterized in that wherein while the cigarettes are stopped in the channels of said feeding system, which takes place between consecutive cycles of transferring cigarettes from the bottom plate to the packing machine, the cigarettes in all channels of said feeding system are inspected in all channels of the feeding system with use of by movable sensors reciprocally moving with reciprocating movement along a predetermined determined trajectory,

whereby the wherein said movable sensors are coupled with the rejecting device, [[and]]

wherein said detection and rejection of faulty cigarettes takes place along said predetermined trajectory in which said movable sensors reciprocally move, and the same trajectory along which the movable sensors are moved

wherein rejection of one of said faulty cigarettes is executed in the same place where the faulty cigarette has been detected.

2. (Currently Amended) [[A]] The method as claimed in claim 1, ~~characterized in that~~ wherein the distance between the predetermined trajectory and the bottom plate is constant for all channels and corresponds with the same number of cigarettes located in the channels between the bottom plate and the trajectory.

3. (Currently Amended) [[A]] The method as claimed in claim 1, ~~characterized in that~~ wherein the distance between the predetermined trajectory and the bottom plate is not constant for all channels and corresponds with different number of cigarettes located in the channels between the bottom plate and the trajectory.

4. (Cancelled)

5. (Currently Amended) [[A]] The method as claimed in claim 1 ~~4, characterized in that~~ wherein ~~in case of multiple~~ feeding systems ~~feeding a feed said~~ packing machine, and said fault detection and rejection ~~the activities~~ are executed independently for each feeding system ~~with use of~~ by a set of sensors and a rejecting device autonomous for each feeding system.

6. (Currently Amended) [[A]] The method as claimed in claim 1 ~~4, characterized in that~~ wherein ~~in case of~~ multiple feeding systems ~~feeding a feed said~~ packing machine, and said fault detection and rejection ~~the activities~~ are executed for all feeding systems ~~with use of~~ by one common set of sensors and a rejecting device.

7. (Currently Amended) [[A]] The method as claimed in claim 1, ~~characterized in that the~~ wherein cigarette loose end detection is executed ~~with use of~~ by a sensor located near [[the]] a cigarette opened end, and [[the]] detection of improperly attached filter is executed ~~with use of~~ by a sensor located near [[the]] a filter end, and ~~whereas~~

wherein both sensors are coupled [[,]] and the cigarette is inspected at [[its]] both ends simultaneously.

8. (Currently Amended) [[A]] The method as claimed in claim 1 or 7, ~~characterized in that~~ wherein the sensors constitute photo-optical elements.

9. (Currently Amended) [[A]] The method as claimed in claim 1 or 7, ~~characterized in that~~ wherein the sensors operate within blacklight.

10. (Currently Amended) [[A]] The method as claimed in claim 1, ~~characterized in that~~ wherein the rejecting device constitutes a pneumatic nozzle.

11. (Currently Amended) [[A]] The method as claimed in claim 1, ~~characterized in that~~ wherein the rejecting device comprises two pneumatic nozzles placed symmetrically on both sides of the movable sensor.

12. (Currently Amended) [[A]] The method as claimed in claim 11, ~~characterized in that~~ wherein [[a]] said faulty cigarette is rejected by [[the]] one of said pneumatic ~~nozzle following~~ nozzles which follows the movable sensor, ~~irrespectively of the direction of the sensor movement.~~

13. (Currently Amended) [[A]] The method as claimed in claim 1 or 7, ~~characterized in that~~ wherein the rejection of [[a]] said faulty cigarette is delayed with reference to the moment of detection ~~moment~~, which is a result of the time needed to replace the sensor with the rejecting device.

14. (Currently Amended) [[A]] The method as claimed in claim 1, ~~characterized in that~~ wherein two-phase aligning of cigarette ends is realized in order to assure constant distance between the sensors and cigarettes.

15. (Currently Amended) [[A]] The method as claimed in claim 14, ~~characterized in that~~ wherein the first aligning phase is realized with use of an independent aligning element.

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16. (Currently Amended) [[A]] The method as claimed in claim 14, ~~characterized in that~~ wherein the second aligning phase is realized with use of an aligning mechanism coupled with the sensors and the rejecting device.

17. (Currently Amended) [[A]] The method as claimed in claim 1, ~~characterized in that~~ wherein between two consecutive cycles of ~~transferring~~ transferring the bottom layer of cigarettes from the bottom plate to the packing machine, at least one detection and rejection cycle is executed, and ~~whereas~~ wherein each next detection and rejection cycle may be started after filling [[the]] a gap ~~after~~ by the rejection of said ~~the rejected~~ faulty cigarette with a new cigarette delivered from the upper layer.

18. (Currently Amended) [[A]] The method as claimed in claim 17, ~~characterized in that~~ wherein the cycles of detection and rejection of faulty cigarettes ~~can be~~ are executed without breaks, excluding [[the]] a time when cigarettes drop in channels by one layer.

19. (Currently Amended) [[A]] The method as claimed in claim 1, ~~characterized in that~~ wherein in order to verify [[the]] correctness of ~~the operation of~~ the movable sensors, two reference elements are placed at [[the]] a level of ~~their~~ operation of said movable sensors, one of the reference elements corresponding to ~~corresponds with~~ features of a good quality cigarette and the other ~~one~~ reference element corresponding to ~~corresponds with~~ features of [[a]] said faulty

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cigarette, ~~whereas~~ wherein the reference elements are inspected by the sensors during the reciprocating movement.

20. (Currently Amended) [[A]] The method as claimed in claim 19, ~~characterized in that~~ wherein the reference elements constitute a sample good quality cigarette and a sample faulty cigarette respectively.